

# Urban Construction Initiative Annual Meeting

## Air Quality Update

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# Air Quality Update

## Overview

- Air quality basics
- Nonattainment/Maintenance areas
- Transportation conformity and NEPA requirements update
  - Regional
  - Project-Level
- Greenhouse gas emissions and climate change
- State air quality requirements

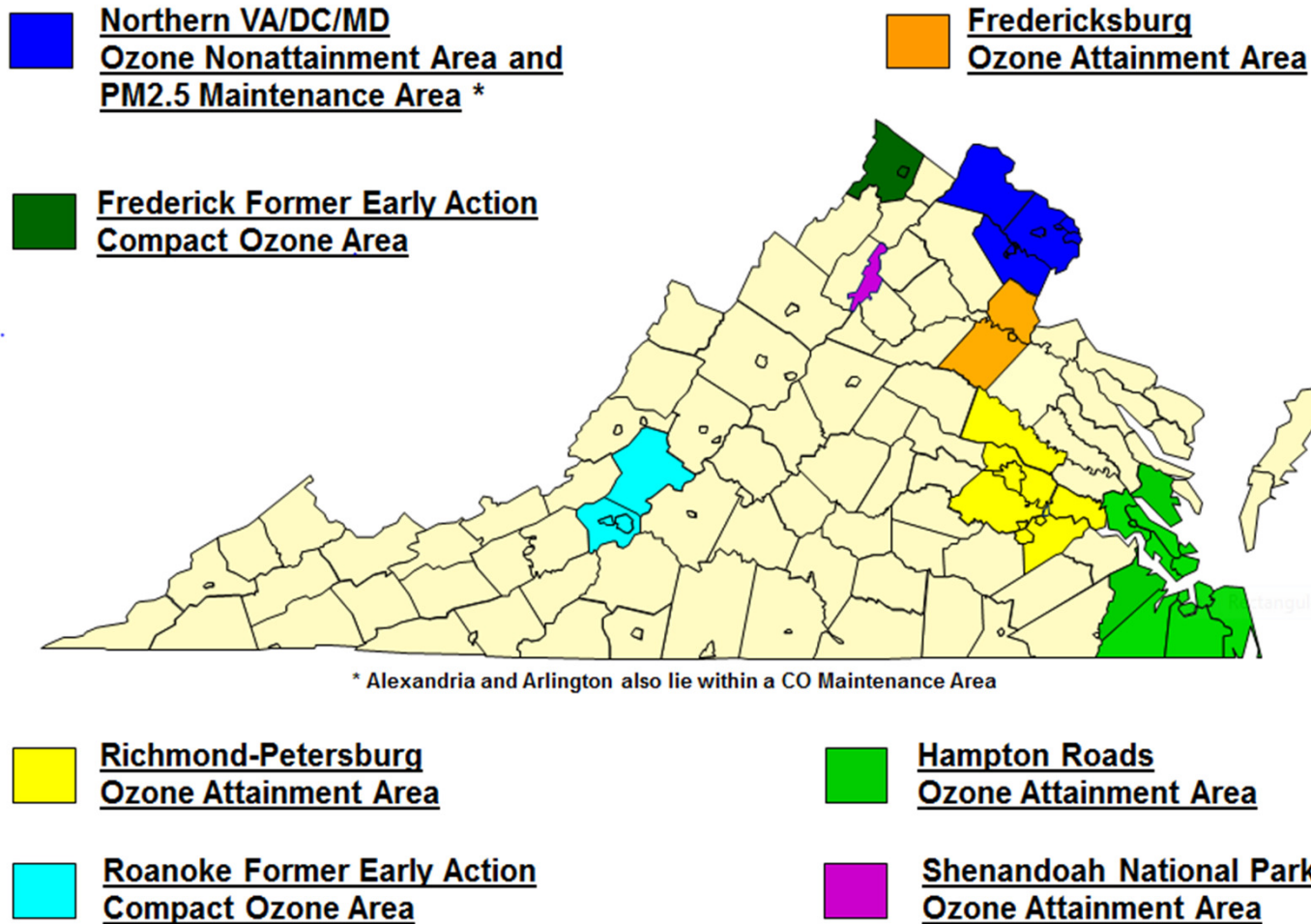
# Air Quality Basics - NAAQS

- **Clean Air Act**
- **National Ambient Air Quality Standards (NAAQS)**
  - Based on health effects, and not economic impact
  - Primary and secondary standards
  - Reviewed every 5 years
- **Six “Criteria Pollutants”**
  - Ozone (O<sub>3</sub>)
  - Carbon monoxide (CO)
  - Particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>)
  - Sulfur dioxide (SO<sub>2</sub>)
  - Nitrogen dioxide (NO<sub>2</sub>)
  - Lead (Pb)

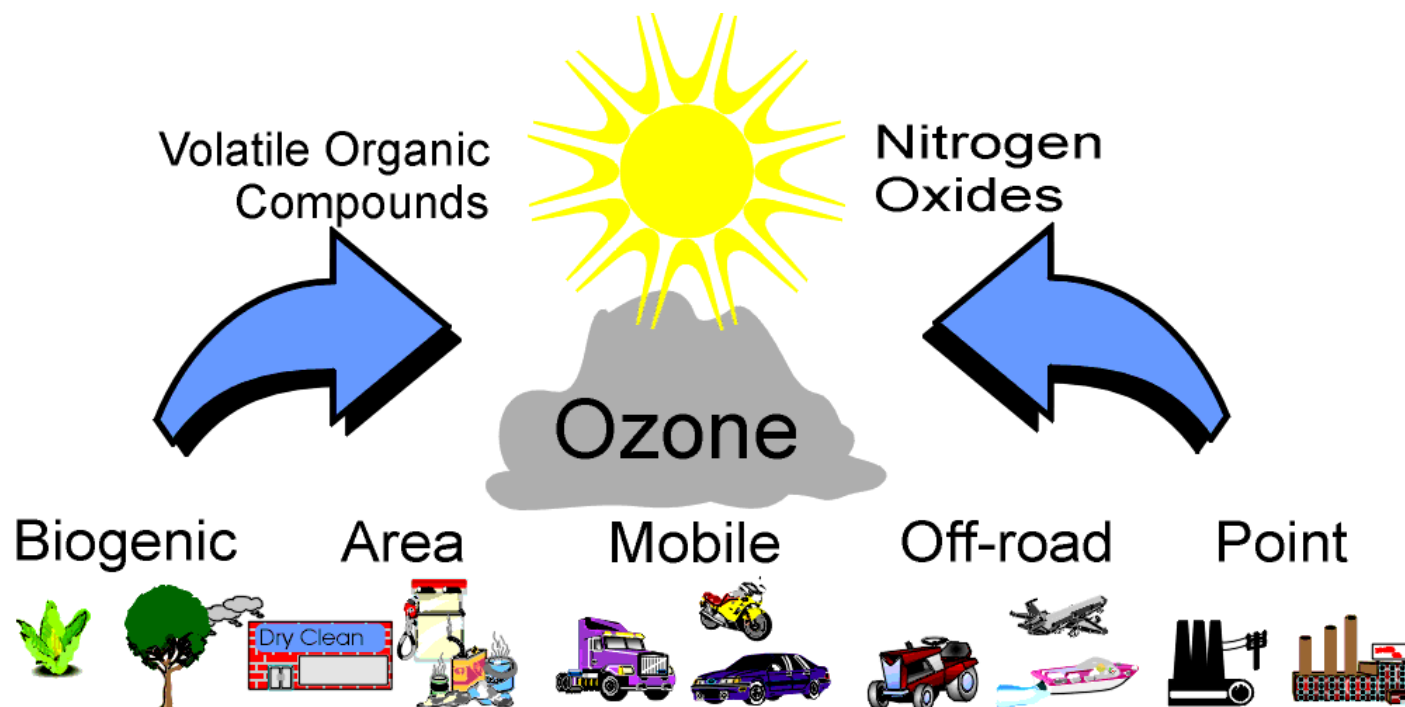
## **Air Quality - Classifications**

- **Attainment Areas - Meets NAAQS**
- **Nonattainment Areas - Exceeds NAAQS**
- **Maintenance Areas - Meets NAAQS now, but previously exceeded**

# Air Quality - Planning Areas



## Air Quality - Ozone Formation



## 8-Hour Ozone Design Values (ppb)\*

Loudoun	67	Hampton	67	Chesterfield	66
Prince William	66	Suffolk-TCC	65	Henrico	69
Arlington	74	Suffolk-Holland	65	Hanover	68
Fairfax-Lee Park	73	Stafford	67	Charles City	67
Albemarle	62	Caroline	67	Rockbridge	59
Frederick	63	Roanoke	62	Shenandoah	65
Fauquier	59	Rockingham	61	Wythe	63



Northern Virginia



Hampton Roads



Fredericksburg



Richmond

- Current 8-Hour Ozone Standard 75 ppb
- EPA recently proposed to lower to 65-70 ppb
- EPA expected to finalize new standard by October 2015
- Designations expected October 2017

\* Based on 2012-2104 ozone monitoring data

# Federal Air Quality Requirements

- **Transportation Conformity – EPA process to ensure plans (LRTPs), programs (TIPs), and projects won't cause or contribute to air quality violations**
  - **Applies only in nonattainment/maintenance areas**
  - **Regional**
    - Projects must be from conforming LRTP and TIP
    - Applicable to Ozone, CO, and PM<sub>2.5</sub>
  - **Project-level**
    - Federally funding or approvals
    - Applicable to CO and PM<sub>2.5</sub>



# Federal Air Quality Requirements

- **NEPA**
  - **Federally funded projects only**
  - **Applies statewide**
  - **Applies at project-level only**
  - **Applicable to CO and mobile source air toxics (MSATs)**

## Project-Level Analysis: Carbon Monoxide (CO)

- CO 1-hr/8-hr standards: 35/9 ppm
- Estimate of peak concentrations near roadside (hot-spot)
- FHWA Programmatic Agreement: current screening criteria
  - <59,000 AADT for square intersections at LOS E or better
- Traffic and related requirements include:
  - AADT and peak hour volumes, turning movements
  - Posted and congested speeds for each link, and roadway grade
  - Signal timing for signalized intersections
- Scoping changes: communication is essential!
  - Promptly advise on changes in traffic, project termini, timing, etc.

## Project-Level Analysis: MSAT

- **Applicable to all federally-funded projects statewide**
- **Seven priority transportation-related MSAT**
  - acrolein, benzene, 1,3-butadiene, diesel PM, formaldehyde, naphthalene, and polycyclic organic matter (POM)
- **Three tiers of analysis**
  - No meaningful MSAT effects - no analysis required
  - Low potential effects - qualitative analysis required
  - High potential effects - quantitative analysis required
    - E.g., AADT 140,000 to 150,000 or higher by design year

## Project-Level Analysis: Particulate Matter (PM<sub>2.5</sub>)

- **PM<sub>2.5</sub> Annual/Daily Standards: 12/35 ug/m<sup>3</sup>**
- **Currently only applies in Northern Virginia**
  - **EPA recently proposed to revoke 1997 annual primary standard**
  - **Could become effective as soon as April 15, 2016**
- **Hot-spot analysis required for projects of “Air Quality Concern”**
  - **Major focus on new or expanded highway projects with a significant increase in diesel truck traffic**

## Greenhouse Gas (GHG) Emissions

- **Currently, no federal requirements to analyze GHG emissions for transportation projects**
- **CEQ recently released draft guidance on the consideration of GHG emissions and effects of climate change in NEPA reviews**
  - **Agencies should consider the potential effects of proposed actions on climate change as indicated by its GHG emissions**
    - **25,000 metric ton/year “reference point” for quantitative GHG emissions analyses**
    - **Discuss direct, indirect, and cumulative (lifecycle) impacts**
    - **Additional guidance from FHWA would be required**
  - **Agencies should also effects of climate change on the project**
- **FHWA has indicated they are working with CEQ to make sure that any final guidance supports consideration of GHG emissions at the planning level, rather than at the project level**

# State Air Quality Control Requirements

- **VOC and NOx Emission Control Areas (ECAs)**
  - All reasonable precautions should be taken to limit emissions (minimize idling, etc.)
  - SP107E applies
- **Open burning prohibition**
  - May through September in VOC ECAs
- **Cutback asphalt prohibition**
  - April through October in VOC ECAs
- **Fugitive dust restriction**
  - All reasonable precautions must be taken to prevent airborne particulate matter
    - e.g., water truck applicator to minimize airborne PM



# QUESTIONS?

## CO Air Section Staff

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